

23110

S/181/61/003/005/015/042
B101/B214

Emission recombination of...

$$n_i = 4.82 \cdot 10^{15} T^{\frac{3}{2}} \left(\frac{m_n m_p}{m^3} \right)^{\frac{1}{2}} e^{-\frac{\Delta E}{2kT}} \quad (3)$$

n_i is the concentration of the majority electrons and holes; ΔE the width of the forbidden band; m_n , m_p the effective masses of electrons and holes; and m the mass of the free electron. It is assumed that the temperature dependence affects the dependence of $n^3 \chi$ on γ only as a result of the displacement of the long wave boundary on the strength of the function

$\Delta E(T)$. From $\Delta E(T) = E(0) + aT$ it follows that the $n^3 \chi$ curves calculated for 300°K as function of $h\nu/kT$ are displaced along the u -axis according to the law: $u_T/u_{300} = 300/T - \beta(300/T - 1)$ (4). Here, $\beta = 0.293$ for PbS,

0.414 for PbSe, and 0.375 for PbTe. The function $R(T)$ calculated by numerical integration as well as $\tau_1(T)$ calculated from Eqs. (2), (3), and

(1) are shown in a figure. The effective mass of electron and holes calculated from the thermo-emf gave for $m_n m_p / m^2$ the value of 0.135.

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for PbS, 0.196 for PbSe, and 0.206 for PbTe at 300°K. The cross section is calculated from $S = R/n_i^2 v$, where v is the mean thermal velocity of the carriers. Since n_i is almost constant near the absorption edge, the frequency dependence of κ for direct (d) transition is determined from $(h\nu - \Delta E)^{1/2}/(h\nu)^2$ and for indirect (i) transition from $(h\nu - \Delta E)^2/(h\nu)^2$. Taking into account the fact that $\exp(\Delta E/kT) \gg 1$ and neglecting the temperature dependence of the effective mass from Eqs. (5), (1), and (3), the temperature dependence of the cross section is given by:

$$S_d \sim T^{-1} \left[\Gamma\left(\frac{5}{2}\right) + \frac{\Delta E}{kT} \Gamma\left(\frac{3}{2}\right) \right], \quad (6a)$$

$$S_i \sim T^{-1/2} \left[\Gamma(4) + \frac{\Delta E}{kT} \Gamma(3) \right], \quad (6b)$$

Here, $\Gamma(x)$ is the Euler's gamma function. Above room temperature, the total cross section is nearly constant and equals $1.3 \cdot 10^{-19}$, $8 \cdot 10^{-20}$, and $2.2 \cdot 10^{-19} \text{ cm}^2$, respectively, for PbS, PbSe, and PbTe. The increase of R

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brought about by the rapid increase in the density of photons with increasing temperature is compensated by the corresponding increase of n_1^2 .

V. N. Larichev is thanked for suggesting the problem, and Z. I. Uritskiy for discussions. There are 1 figure and 16 references: 3 Soviet-bloc and 13 non-Soviet-bloc. The 3 most important references to English-language publications read as follows: W. van Roosbroeck, W. Shockley, Phys. Rev. 94, 1558, 1954; W. W. Scanlon, Phys. Rev., 109, 47, 1958; W. W. Scanlon, Phys. and Chem. Solids, 8, 423, 1959.

ASSOCIATION: Gosudarstvennyy opticheskiy institut im.S.I.Vavilova,
Leningrad (State Optical Institute imeni S. I. Vavilov,
Leningrad)

SUBMITTED: July 28, 1960 (initially)
December 26, 1960 (after revision)

Card 4/5

24.7700(1043,1055,1164)

28100

S/181/61/003/009/034/039
B108/B138

AUTHORS: Baryshev, N. S., Uritskiy, Z. I.

TITLE: The theory of band-to-band impact recombination in
semiconductors

PERIODICAL: Fizika tverdogo tela, w. 3, no. 9, 1961, 2861-2864.

TEXT: A recent publication by A. R. Beattie and R. T. Landsberg (Ref. 1, Proc. Roy. Soc., A 249, 1256, 1959) caused the authors of the present article to develop a more general theory on band-to-band impact recombina-

tion in semiconductors. With the substitutions $\mu = \frac{m_c}{m_v}$ and $k_g^2 = \frac{2m_c \Delta E}{\hbar^2}$ and

assuming a quadratic dispersion law, one obtains the following expressions for electron-electron and hole-hole collisions, respectively:

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The theory of band-to-band impact ...

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$$x \equiv \left(\frac{t}{\hbar}\right) |E_f - E_i| =$$

$$= \left\{ \left(\frac{t\hbar}{m_e}\right) \left[(k'_1 - k_1)(k'_1 - k_2) - \frac{1}{2}(1+\mu)k'_1{}^2 - \frac{1}{2}k_1^2 \right], \right. \quad (6a)$$

$$\left. \left(\frac{t\hbar}{m_h}\right) \left[(k'_1 - k_1)(k'_1 - k_2) - \frac{1}{2}(1+\mu^{-1})k'_1{}^2 - \frac{1}{2}\mu^{-1}k_1^2 \right] \right\} \quad (6b)$$

ΔE_g denotes the forbidden band width. The total recombination rate is equal to

$$R = 2^3 \sqrt{2} \pi^3 \frac{e^4 t m_e^{3/2} (kT)^3}{V^2 \hbar^4 \Delta E_g^{3/2}} \left[\frac{\Delta n}{a_e n_0} + \frac{\Delta p}{a_h p_0} \right] \left[2 \left(\frac{V}{8\pi^3} \right)^3 (AB)^3 \times \right. \\ \times \left[1 + \mu \exp \left(-\frac{E_s + E_g - 2F_0}{kT} - \frac{1-\mu}{1+\mu} \frac{\Delta E_g}{kT} \right) \right] \times \\ \left. \times \exp \left[-\frac{7+9\mu}{6+6\mu} \frac{\Delta E_g}{kT} - \frac{E_s - F_0}{kT} \right] \right] \quad (9)$$

when electron exchange and screening effects are neglected in the electron and hole contributions to the recombination rate (Ref. 1). The constant AB is given by the expressions

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$$A = \int_0 U_n^*(\mathbf{k}_n, \mathbf{r}) U_n(\mathbf{k}_n, \mathbf{r}) d\mathbf{r} + \frac{\Delta E_g}{m} \sum_{\substack{n \neq l \\ n \neq r}} \frac{P_{en}^* P_{en}^s}{(\omega_{en} \omega_{nr})}, \quad (4)$$

$$B = 1 + \frac{2\hbar^2}{m} \sum_{n \neq l} \frac{P_{en}^* P_{en}^s}{E_n - E_n} = \frac{m}{m_0}, \quad (5)$$

Notations: ϵ - dielectric constant, $P_{nn}^s = \frac{(2\pi)^3}{\Omega} \int U_n^*(\vec{r}) \left(\frac{\hbar}{i} \nabla_{\mathbf{r}} \right) U_n(\vec{r}) d\vec{r}$,

Ω - volume of the elementary cell, $\Omega_{nn} = \frac{E_n - E_{n'}}{\hbar}$, $U_n(\vec{r})$ - the Bloch factor, Δn and Δp deviation of the electron and hole concentrations from their equilibrium values n_0 and p_0 , respectively. F_0 is the Fermi level at equilibrium, $\phi_c \approx \phi_v \approx 2$ for non-degenerate semiconductors. The upper limit of the excess-electron lifetime is given by $\tau_{n1} = (tv) \frac{\Delta n}{R}$, that of the excess-hole lifetime by $\tau_p = \frac{\Delta p}{R}$. Semiconductors of the PbS group

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are considered as examples. The Landsberg and Beattie procedure (Ref. 1) is not applicable to this kind of substance as their (electron-to-hole effective mass ratio) is near unity. The electron and hole lifetimes are in this case:

$$\tau_n = \tau_p = \frac{\pi^3}{4\sqrt{2}} \frac{e^3 h^3 n_i \Delta E_g^{3/2}}{e^4 m_e^{3/2} (kT)^3} \frac{1}{(AB)^3} \times \\ \times \exp \left[\frac{4}{3} \frac{\Delta E_g}{kT} + \frac{E_g - F_0}{kT} \right] \quad (11)$$

The constant AB is found to be of the same order of magnitude as the forbidden to allowed band width ratio. Impact recombination in PbS and PbTe is much weaker than radiative recombination. In PbSe, however, impact recombination predominates at and above room temperature. There are 1 figure and 7 references: 1 Soviet and 5 non-Soviet.

SUBMITTED: April 10, 1961

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38935
S/181/62/004/006/022/051
B104/B112

26.2420
AUTHORS: Baryshev, N. S., and Aver'yanov, I. S.
TITLE: Photoelectric properties of artificial PbS single crystals
PERIODICAL: Fizika tverdogo tela, v. 4, no. 6, 1962, 1525-1528
TEXT: The photoelectromagnetic effect and the photoconduction of artificial p- and n-type PbS single crystals with carrier concentrations of $8 \cdot 10^{16}$ - $8 \cdot 10^{18} \text{ cm}^{-3}$ were investigated. The photoelectromagnetic effect was measured in fields of up to 15,000 oe, and its temperature dependence was determined by means of a special cryostat. The measurements were made in liquid nitrogen vapor. The photoconduction was determined in the modulated light (390 cps) of an incandescent lamp (300 w). The carrier lifetime was found to be 10^{-7} - 10^{-10} sec. For samples with a carrier concentration $< 2 \cdot 10^{18} \text{ cm}^{-3}$, the concentration dependence of the carrier lifetime may be described by $\tau \cdot p^2 = 3 \cdot 10^{27} \text{ cm}^{-6} \cdot \text{sec}$, where p is the concentration. Recombination levels are determined from the temperature

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Photoelectric properties of...

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dependence of the carrier lifetime. In p-type material, the recombination level is 0.02 ev below the bottom of the conduction band, and in p-type material it is 0.037 ev above the top of the valence band. These are donor and acceptor levels which give rise to the impurity conduction. The effective recombination cross section of p-type specimens is given by $s = c \cdot p = 1.5 \cdot 10^{-35} \cdot p \text{ cm}^2$, and that of n-type specimens is found to be 10^{-17} cm^2 . It is concluded that the electrical and recombination properties of PbS single crystals are determined by the shallow levels caused by deviations from stoichiometric composition. There are 4 figures. ✓

ASSOCIATION: Leningradskiy gosudarstvennyy opticheskiy institut im.
S. I. Vavilova (Leningrad State Optical Institute imeni
S. I. Vavilov)

SUBMITTED: January 26, 1962

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39980

S/181/62/004/008/025/041
B102/B104

24.7700

AUTHORS: Andramonov, V. S., Baryshev, N. S., and Aver'yanov, I. S.

TITLE: Influence of copper on the properties of lead sulfide single crystals

PERIODICAL: Fizika tverdogo tela, v. 4, no. 8, 1962, 2223-2226

TEXT: Bloem and Kröger (Philips Res. Rep. 12, 281, 1957) have studied the Cu diffusion into monocrystalline PbS in hydrogen atmosphere. The authors of the present paper do the same, but in vacuo. Monocrystalline p-type PbS samples of $1.2.5.5 \text{ mm}^3$, covered on one side with electrolytic Cu, were placed in evacuated ampoules (10^{-5} - 10^{-6} mm Hg), annealed at 150 - 450°C for some hours, and then rapidly cooled to room temperature. The depth of the p-n junction was determined by thermoelectric probing. The temperature dependence of the diffusion coefficient can be described by $D = 4.6 \cdot 10^{-4} \exp(-8230/RT) \text{ cm}^2 \cdot \text{sec}^{-1}$; in H_2 atmosphere it was

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Influence of copper on the properties ... S/181/62/004/009/025/041
B102/B104

ASSOCIATION: Gosudarstvennyy opticheskiy institut im. S. I. Vavilova
Leningrad (State Optical Institute imeni S. I. Vavilov,
Leningrad)

SUBMITTED: March, 29, 1962

Card 3/3

AVER'YANOV, I.S.; BARYSHEV, N.S.; BARU, V.G.; YUDINA, G.I.

Some data on the production of lead sulfide single crystals.
Fiz. tver. tela 4 no.9:2349-2354 S '62. (MIRA 15:9)

1. Gosudarstvennyy opticheskiy institut imeni S.I. Vavilova,
Leningrad.

(Lead sulfide crystals)

BARYSHEV, N.S.; URITSKIY, Z.I.

On the theory of impact recombination in semiconductors
with an impurity band. Fiz. tver. tela 5 no.2:478-480 F '63.
(MIRA 16:5)

1. Gosudarstvennyy opticheskiy institut imeni S.I.Vavilova,
Leningrad.

(Semiconductors)

(Wave mechanics)

"APPROVED FOR RELEASE: 06/06/2000

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L 30094-66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) AT/JD
 ACC NR: AP6012495 SOURCE CODE: UR/0181/66/008/004/1262/1263
 AUTHORS: Baryshev, N. S.; Shtivel'man, K. Ya.
 ORG: none
 TITLE: Mobility of electrons in p-InSb
 SOURCE: Fizika tverdogo tela, v. 8, no. 4, 1966, 1262-1263
 TOPIC TAGS: indium compound, antimonide, electron mobility, photomagnetic effect, carrier density, hole mobility, phonon drag
 ABSTRACT: The authors investigated the dragging of minority carriers in crystals by the majority carriers in p-InSb. The mobility of the electrons was determined by the photomagnetic effect using several samples, of which two were pure enough for the theory of the dragging effect to be applicable (7×10^{13} and $1.2 \times 10^{14} \text{ cm}^{-3}$ hole density at liquid-nitrogen temperature). The measured electron mobilities in these samples were 2.7×10^5 and $1.9 \times 10^5 \text{ cm}^2/\text{v-sec}$ at 100K, and since the compensation of the acceptors was negligible in these samples the hole mobility was high. A theoretical estimate of the mobility of the electrons with allowance for their scattering by phonons, by ionized acceptors, and by holes yields in this case values which are approximately twice the experimental values.
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mental values. The authors show by means of rough estimates that this discrepancy can be attributed to dragging, which increases by three orders of magnitude the contribution made to the scattering of electrons by light holes. Although more accurate calculations are needed for a reliable determination of the law of dragging of electrons by holes, it is concluded that the dragging effect is quite strong and that the effective mass of the light holes amounts to approximately $0.015m_0$. The authors thank I. M. Dykman, N. N. Grigoriyev, and A. G. Samoylovich for a useful discussion.

SUB CODE: 20/ SUBM DATE: 27Sep65/ ORIG REF: 003/ OTH REF: 005

Card

2/2 CC

ACC NR: AF6024505

SOURCE CODE: UR/0181/66/008/007/2258/2260

AUTHOR: Baryshev, N. S.; Vdovkina, Ye. Ye.; Martynovich, A. P.; Nesmelova, I. M.; Tsitsina, N. P.; Aver'yanov, I. S.

ORG: none

TITLE: Deep energy levels in indium antimonide

SOURCE: Fizika tverdogo tela, v. 8, no. 7, 1966, 2258-2260

TOPIC TAGS: indium compound, antimonide, impurity level, forbidden band, Hall effect, carrier density, carrier lifetime, photoconductivity, photoelectromagnetic effect

ABSTRACT: The authors have investigated certain electric properties of single crystals of InSb with uncompensated-impurity density $10^{12} - 10^{16} \text{ cm}^{-3}$. The positions of the deep levels in the forbidden band were determined, the concentrations of the corresponding centers obtained, and their recombination properties investigated. The test consisted of measuring the Hall effect and the conductivity in p-type crystals grown by the Czochralski method and doped with germanium, or else obtained by multiple zone melting, in the interval 55 - 300K. The temperature dependence of the Hall coefficient shows, for samples with uncompensated-acceptor density lower than 10^{14} cm^{-3} , the presence of two regions of quenching (below the Hall inversion point and at low temperatures) and a sloping region between them. The results are explained by assuming the existence of three levels (shallow donor and acceptor levels and a deep donor level), the degree of filling of which depends on the temperature. To observe

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ACC NR: AP6024505

the deep levels, the transmission of several samples with carrier density $n \sim 10^{14}$ cm^{-3} was investigated at 55 and 77K in the spectral interval 5 - 15 μ . A weak absorption band was observed near 9.3 μ , and it is attributed to the ionization of the deep levels. Measurements of the stationary photoelectromagnetic effect and the photoconductivity were used also to investigate the temperature dependence of the lifetime of the carriers, and the results obtained agreed with the published data. The authors thank K. Ya. Shtivel'man for a useful discussion. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 23Nov65/ ORIG REF: 004/ OTH REF: 007

Card

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BARVISHCHEV, N.V.

8

Nishayaya Kvala ore deposits. S. L. DANILOV AND N. V. BARVISHCHEV. *Mineralog. Zhurn.* 8, 403-404 (1930); *Chem. Zvest.* 1930, 11, 1844. The ore deposit at the Nishayaya Kvala River contains lead glance, zinc blende, chalcoppyrite, pyrite, anglesite, limonite, cerussite and smithsonite. The vein minerals are quartz and calcite. A. BURGESS

ASTM - S. A. METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND GROUPS										3RD AND 4TH GROUPS									
PROCESSES AND PROPERTIES INDEX																			
<p>BARUISHEV, N.Y.</p> <p>Styryanka phlogopite deposits. N.V. BARUISHEV AND V.I. KRASHNIKOV. Mineral Jour's 6, 770-08 (1931).—A geological survey was made with the view of enlarging the output of the mineral.</p> <p>CHINA: HIANI</p>																			
<p>AND-55 A METALLURGICAL LITERATURE CLASSIFICATION</p>																			
<p>1ST GROUP</p>										<p>2ND GROUP</p>									
<p>3RD GROUP</p>										<p>4TH GROUP</p>									

1ST AND 2ND SECTIONS										3RD AND 4TH SECTIONS									
PROCESSING AND PROPERTIES INDEX																			
CA										7									
<p>Rational schemes of sampling. N. V. Karyshev and P. L. Kallitov. <i>Neft' (oil)</i>, 1946, No. 8, 112 U. Sam- pling methods for analysis are illustrated by data on vol- framite samples obtained by various methods. F. H. Rathmann</p>																			
<p>ASB-11A METALLURGICAL LITERATURE CLASSIFICATION</p>																			

BARYSHEV, N. V. Dr. Geolog-Mineralog. Sci.

Dissertation: "Experimental and Theoretical Realization of the Solution of the Most Essential Problems of Prospecting Procedures." Moscow Geological-Prospecting Inst. imeni S. Ordzhonikidze, 11 Jun 47.

SO: Vechernyaya Moskva, Jun, 1947 (Project #17836)

1. BARYSHEV, N. V.
2. USSR (600)
4. Ores - Sampling and Estimation
7. Methods of analyzing ores for Pb-Zn, Cu, W, Mo, and Sn depending upon the assay of the samples of these ores. (Abstract) Izv.Glav.upr.geol.fon. no. 3, 1947

9. Monthly List of Russian Accessions. Library of Congress. March 1953. Unclassified.

(17 AND 18 COLUMNS)										(19 AND 20 COLUMNS)									
PROCEDURES AND PROPERTIES INDEX																			
5		21																	
<p style="text-align: center;">A CONTRIBUTION TO THE QUESTION OF THE EXPERIMENTAL BASES OF THE METHOD OF TAKING AND PREPARING LABORATORY SAMPLES FOR ANALYSIS. T.O. Fomenko, and M.V. Baryshev. (Zavodskaya Laboratoriya, 1946, vol 14, June, pp 678-686). (in Russian). The first part consists of some criticisms by Fomenko of an article by Baryshev (Zavodskaya Laboratoriya, 1947, vol 15, May) on the experimental procedure for taking and pre- paring samples for analysis, with special reference to sizing and amount of sample; the second and longer part contains Bary- shev's answers to these criticisms. S.K.</p>																			
ASB-31A METALLURGICAL LITERATURE CLASSIFICATION																			
SOURCE SYMBOLISM										SOURCE SYMBOLS									
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BARYSHEV, N. V.

11 (2, 4) PHASE I BOOK EXPLORATION 307/2213

Groznyy. Neftyanoy nauchno-issledovatel'skiy institut

Endiya i tekhnologiya pererabotki nefti i gaza (Chemistry and Technology of Petroleum and Gas Refining Processes) Moscow, Gosstatizdat, 1959. 278 p. (Series: Iss. Trudy, vyp. 4) 2,500 copies printed.

Executive Ed.: T.D. Yefremova; Tech. Ed.: A.S. Polosina; Editorial Board: A.Z. Dorogochinskiy (Chairman), B.K. Amerik, G.I. Kuznetsov, M.M. Kuznetsov, V.I. Lavrent'yev, Ye.S. Levchenko, and A.G. Mikrosanov (Deputy Chairman).

PURPOSE: This book is intended for petroleum engineers and technicians in scientific research institutes, planning organizations, and refineries.

COVERAGE: This collection of technical papers on oil and gas refining were originally discussed at the petroleum refining section of the Third Grozny Scientific-Technical Congress in 1957. The articles have been published to help further the development of the petroleum refining industry and petrochemical industry in the Chechen-Grozhny ASSR. The history and significance of the petroleum refining industry in the Grozny region is outlined by A.Z. Dorogochinskiy with emphasis on the interdependence of the refineries and the aircraft, automobile and rocket manufacturing industries. Change in modern engines demand a change in fuel and lubricating oil properties. The increased use of jet aircraft makes the production of high octane aviation gasoline less important than the production of the new type of fuel, aviation kerosene, the field of which requires a quite different refinery run. Since the materials for manufacturing aircraft fields of aviation kerosene recovered at the Karabulak-Achulki fields of the Chechen-Grozhny ASSR are not sufficient, the authors have investigated and results of analysis presented. The re-equipment of the fuel producing line of refineries at Grozny has been carried out on the basis of findings obtained from tests and pilot plant operations, and a number of reforming and platforming units have been built to upgrade the low octane gasoline produced at Grozny. Tests were also conducted to ascertain the advisability of applying the destructive distillation of residues, which yields solar fractions badly needed for catalytic cracking unit as feed stock. Catalytic cracking units of the KJ-102 type were first put on stream in the Grozny refineries in 1955, and since that time continuous efforts have been made to boost their processing capacity, and improve the regeneration of catalysts. The authors make a number of suggestions as to how the throughput of the above mentioned units can be increased. The production of different types of pelleted and bead catalysts, the contamination of catalysts and their reactivation are discussed. The operation of a contact coking reactor, its design, and products yielded by contact coking units are described. The authors also deal with the manufacture of lubricating oils, paraffin and cetane wax and indicate way of improving their properties. Electrical dehydration and desalting of crude oil and of light products are discussed. The authors state that in recent years extensive studies were made on the chemical conversion of petroleum products, and particularly of gases. As a result, a number of gas fractionators and compressors were built, which enable to produce ethyl alcohol and oxides paraffins hydrocarbons. An article is devoted to problems of automating various processes and developing the related control and gage instruments. The book contains numerous tables with the characteristics of different petroleum products obtained from refinery processing units, pilot plants and petrochemical refinery sections. Each article is accompanied by references.

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contain numerous tables with the characteristics of different petroleum products obtained from refinery processing units, plants and petrochemical refinery sections. Each article is accompanied by references.

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III. IMPROVEMENTS IN THE LUBE OIL AND PARAFFIN WAX PRODUCING LINE OF REFINERIES

Mitrofanov, M.G. Possibilities of Further Development and Improvement of the Lube Oil and Paraffin Wax Production in the Gromny Refineries 157

Mitrofanov, M.G., and M.I. Logvinov. Rational Flow Scheme for Manufacturing Lubricating Oil, Paraffin and Ceresine Wax Obtained from Sulfurous Grades of the Romashkino Type 163

Mitrofanov, M.G., S.I. Stepuro, V.V. Serov, and K.V. Krashinsky. Experimental Treatment of Sulfurous Petroleum Residue (Gedoren) with Two-component Selective Solvent, as Applied in the Refining Industry 166

Kram, S.P., O.A. Artyukova, M.G. Mitrofanov, and A.G. Martynenko. Possibilities of Improving Operating Properties of Residual Oils 171

Card 7/9

AMERIK, B.K.; ORKINA, Z.G.; BARYSHEV, N.V.; STANULIS, I.A.; KUTSEKOK, L.Z.

Possible indices of the operation of reaction apparatuses
for contact coking under intensified conditions. Trudy GrozNII
no.4:101-113 '59. (MIRA 12:9)

(Petroleum coke)

~~BARISHOV, G.~~ [Baryshev, O.]

Farmhouses built of precast reinforced concrete elements. Sil'.
bud. 9 no.7:6-7 J1 '59. (MIRA 12:9)

1. Nachal'nik Moskovs'kogo oblasnogo upravliniya po budivnitstvu
v kolgospakh.
(Moscow Province--Farmhouses) (Precast concrete construction)

BARYSHEV, P.A.; MORDOVINA, A.V.; AVEUTSEVICH, G.P.

Glazing materials and concentrated primers for leather finishing.

Kosh.-obuv. prom. 2 no. 11:37-38 N '60.

(MIRA 13:12)

(Leather)

(Finishes and finishing)

BARYSHEV, P.B.; DROZHZHIN, V.N.

Role of farm animals as a potential source of leptospirosis infection
in Altai Territory. Zhur.mikrobiol., epid. i immun. 40 no.12:60-64 D '63.
(MIRA 17:12)

1. Iz II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni
Pirogova i Altayskoy krayevoy veterinarno-bakteriologicheskoy labora-
torii.

BARYSHEV, P.M.; STRUGUSHCHENKO, Yu.M.; KHOMUTOV, T.Ya.

Therapeutic effectiveness of leptospirous γ -globulin; studies
in Krasnodar Territory. Sog. med. 27 no.1:116-120 Ja '64.

(MIRA 17:12)

1. Laboratoriya leptospirozov (zav.- prof. A.A. Varfolomeyeva)
Moskovskogo nauchno-issledovatel'skogo instituta vaktsin i syvorotok
imeni I.I. Mechnikova, kafedra epidemiologii (zav.- prof. V.V.
Skvortsov) II Moskovskogo meditsinskogo instituta imeni N.I.
Pirogova i Grivenskaya uchastkovaya bol'nitsa (glavnyy vrach
T.Ya. Khomutov) Krasnodarskogo kraja.

BARYSHEV, P.M.

Studies on a segment of the Altai Territory rural population immune to leptospirosis. Sov. med. 27 no.6:94-98 Je '64.

(MIRA 18:1)

1. Kafedra epidemiologii (zav. - prof. V.V. Skvortsov) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.

LAVROVA, M.Ya.; STRIGUSHCHENKO, Yu.M.; BARYSHEV, P.M.

Leading factors of the epidemiological process in the leptospirosis
foci of the lower Kuban River. Zhur. mikrobiol., epid. i immun. 41
no.9:112-117 S '64. (MIRA 18s4)

1. Tsentral'nyy institut epidemiologii i II Moskovskiy meditsinskiy
institut.

BARYSHEV, P.R.; KHAVIN, A.A.

Direct-current zero-size unified P-series electric motors.
Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekhn.
inform. no.2:58-60 '63. (MIRA 16:2)
(Electric motors, Direct current)

BARYSHEV, S.

Production conferences in the lumbering district. Sov. profsoiuzy
4 no. 4:64-65 Ap '56. (MIRA 9:7)

1. Zaveduyushchiy otdelom Letskogo Rayonnogo komiteta Kommunisticheskoy
partii Sovetskogo Soyuz, Komi ASSR.
(Lumbering)

BARYSHEV, S.F.

25815. BARYSHEV, S.F. O Polevoy uskhozhesti fiziologicheskii nedozrevshikh semyan yachmenya. (Po povody stat' i T.C. Rzhanova "Polevaya uskhozhest' fiziologicheskii nedozrenshikh semyan yachmenya" v zhurn. "Selektsiya i semenovodstvo", 1949, No 1 S. primech. red). Selektiya i semenovodstvo, 1949, No 8, S. 47-50

SO: Letopis' Zhurnal'nykh Statey Vol. 34, Moskva 1949

KASHIRIN, N.A.; GLADKOVSKIY, V.A.; FRIKKE, S.A.; Primalni uchastie:
POPOV, N.P., inzh.; BARYSHEV, S.P., inzh.; SUVOROVA, V.I.,
inzh.; SERGEYEV, I.I., inzh.

Effect of expanding on the distribution of residual stresses
in large-diameter pipes. [Sbor. trud.] Nauch.-issl.inst.met.
no.4:158-163 '61. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut metallurgii (for Kashirin,
Gladkovskiy). 2. Ural'skiy nauchno-issledovatel'skiy trubnyy
institut (for Frikke).

(Expanded metal)
(Strains and stresses)

S/095/62/000/001/001/001
1031/1231

AUTHOR: Kuzmak, Ye. M. Doctor of Physical Sciences, Milanchev, V. S., Candidate of Technical Sciences (MINKh and GP imeni Gubkin), Suvorova, V. I., Sergeyev, I. J., Baryshev, S. P., Engineers (Chel'yabinsk Pipe plant)

TITLE: Investigation of physical properties and weldability of heat-treated 19Г (19G) steel

PERIODICAL: Stroitel'stvo truboprovoslov, no. 1, 1962, 8

TEXT: An investigation was made to determine the effect of chemical composition on the physical properties and weldability of heat-treated 19Г (19G) steel.

The chemical composition of the mild and hard heated steel used was: (%)

	C	Mn	Si	Cr	Ni	Cu	S	P
Mild heat	0.16	0.70	0.24	0.03	0.10	0.13	0.030	0.012
Hard heat	0.22	1.01	0.27	0.04	0.11	0.14	0.037	0.020

Heat-treatment of 19G steel (heating for 25 minutes at 930°C, then water quenching and tempering at 600°C) increased the tensile strength, the yield point and the impact strength of specimens made from both

Card 1/2

Investigation of...

S/095/62/000/001/001/001
1031/1231

mild and hard heats. Elongation decreased in both cases, however, an especially, drastic decrease being noted in hard steel specimens. The considerable fluctuations of physical properties in both the "as received" and heat-treated steels are due to the different chemical analyses of the steel.

In order to minimize the fluctuation in the physical properties, it is recommended to increase the strength of the mild steel by adjusting the temperature of tempering, raising the strength up to that of hard-heat steel.

Investigation of the physical properties of submerged-arc-welded specimens showed that weldings equal in strength to the pipe base metal may be obtained if heat input of the welding does not exceed the value of 7500 cal/cm. run. ✓

Preliminary heat treatment of 19G steel considerably improves the characteristics of the heat -affected zone in welding seams.

Heat treatment of 19G steel permits reduction of pipe wall thickness by 10 to 20 percent. There are 6 table and 3 figures.

Card 2/2

KUZMAK, Ye.M., doktor tekhn. nauk; MILANCHEV, V.S., kand. tekhn. nauk;
SUVOVA, V.I., inzh.; SERGEYEV, I.I., inzh.; BARYSHEV, S.P., inzh.

Testing 19G steel for thermal hardening and weldability. Stroi.
truboprov. 7 no.1:8-10 Ja '62. (MIRA 16:7)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
im. akademika Gubkina (for Kuzmak, Milanchev). 2. Chelyabinskiy
truboprokatnyy zavod (for Suvoova, Sergeyev, Baryshev).
(Steel—Testing) (Pipe, Steel)

KUZMAK, Ye.M., doktor tekhn.nauk; MILANCHEV, V.S., kand.tekhn.nauk;
KROSHKIN, V.A., inzh.; SUVOROVA, V.I., inzh.; SERGEYEV, S.I.,
inzh.; BARYSHEV, S.P., inzh.; Prinimali uchastiye: SHCHERBACHENKO,
S.V., inzh.; PALATNIKOVA, Ye.S., inzh.

Testing 14GN steel for thermal strengthening and weldability.
Stroi. truboprov. 7 no.12:13-14 D '62. (MIRA 16:1)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
im. akademika Gubkina (for Kuzmak, Milanchev, Kroshkin).
2. Chelyabinskiy truboprokatnyy zavod (for Suvorova, Sergeyev,
Baryshev).

(Steel—Testing)

ACCESSION NR: AP4040705

S/0135/64/000/006/0036/0037

AUTHOR: Litvintsev, A. I. (Candidate of technical sciences);
Cuk, Yu. P. (Engineer); Baryshev, S. Ye. (Engineer); Kushner, S. R.
(Engineer); Ivashko, K. V. (Engineer)

TITLE: Revealing of line laminations before argon arc welding of
AMg5 and AMg6 alloys

SOURCE: Svarochnoye proizvodstvo, no. 6 (630), 1964, 36-37

TOPIC TAGS: aluminum alloy, AMg5 alloy, AMg6 alloy, alloy welding,
alloy sheet welding, argon arc welding, aluminum alloy sheet defect,

ABSTRACT: Laminations are one of the defects encountered in AMg5
and AMg6 aluminum-alloy sheets and plates. These laminations are
small nonmetallic particles mixed with metal. The laminations origi-
nate from slag inclusions crushed during rolling and elongated in
the direction of the rolling. The laminations promote the formation
of blow holes and porosity in welds. X-ray inspection has shown that
95% of the porosity is associated with laminations. The individual

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ACCESSION NR: AP4040705

pores in sheets 3—5 mm thick can be as much as 2—3 mm in diameter. The most effective way of detecting laminations in aluminum-alloy sheets is the ultrasonic echo method with stimulation of waves normal to the sheet surface. The method detects defects 1 mm wide and 30 mm long at a distance of 300—400 mm from the point where ultrasonic vibrations are applied. Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 00

ATD PRESS: 3070

ENCL: 00

SUB CODE: MM

NO REF SOV: 000

OTHER: 000

Card 2/2

1 60128-65 EMT(d)/EMP(c)/EMP(v)/T/EMP(k)/EMP(l)/ETC(m) Pf-4 WH

"APPROVED FOR RELEASE: 06/06/2000

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"APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000203810012-4

ASSOCIATION: none

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000203810012-4"

L 8221-66 EWT(d)/EWT(m)/EWP(c)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWP(l)/ETC(m)			
ACC NR:	AP5026216	IJP(c)	MJW/JD/WW
SOURCE CODE:		UR/0381/65/000/004/0056/0060	
AUTHOR: <u>Baryshev, S. Ye.</u> ; <u>Bespalov, N. A.</u> ; <u>Shan'kova, Z. N.</u> ; <u>Krasota, V. K.</u>			
ORG: none			
TITLE: Mechanized ultrasonic normal wave flaw detector for automatic quality control of aluminum alloy plates			
SOURCE: Defektoskopiya, no. 4, 1965, 56-60			
TOPIC TAGS: ultrasonic inspection, aluminum alloy, alloy sheet, alloy plate, plate ultrasonic inspection, <u>ultrasonic flaw detector</u> , automatic flaw detector, quality control			
ABSTRACT: The design and the operating principles of a <u>UDK-2L</u> ultrasonic flaw detector for automatic quality control of aluminum alloy plates and sheets are described. The flaw detector operation is based on the pulse-echo method using normal antisymmetric waves which undergo a maximum reflection from laminations in the fd range of 6—12 Mc·mm (f is the ultrasound frequency and d is the metal thickness). The UDK-2L flaw detector has two control channels and operates with three fixed frequencies: 1.8, 2.5, and 5 Mc. It is provided with several pairs of interchangeable search heads, each of which is designed for a certain alloy and a definite range of thicknesses. The UDK-2L is capable of separating a pulse reflected from a flaw located at a distance of 1200 mm in sheets of <u>AMg6</u> aluminum alloy. Preliminary statistical data showed that the UDK-2L ensures detection of laminations 20—30 mm long and			
Card	1/2	UDC: 620.179.16	

L 8221-66

ACC NR: AP5026216

0.5—1.0 mm wide, slag inclusions, discontinuities in the cladding layer, and other types of internal flaws. Orig. art. has: 4 figures and 1 table. [MS]

SUB CODE: 13, 11/ SUBM DATE: 05Apr65/ ATD PRESS: 4148

Card 2/2 (11)

BARYSHEV, T.I., Geroy Sotsialisticheskogo Truda

Fertilizers and crops. Zemledelie 25 no.5:47-52 My '63.

(MIRA 16:7)

1. Predsedatel' kolkhoza "Rossiya" Zvenigorodskogo proizvodstven-
nogo upravleniya Moskovskoy oblasti.

(Fertilizers and manures) (Crop yields)

Baryshev, V.

BARYSHEV, V., kapitan 3 ranga; SOKOLOV, A.

Radar equipment in the port of Rotterdam. Mor.flot 17 no.9:30 8 '57.

(MIRA 10:11)

(Rotterdam--Radar)

BARYSHEV, V.
BARYSHEV, V., kapitan 3 rangas

"Arkas" automatic electronic steering gear control system.
Mor.flot 17 no.10:27 0 '57. (MIRA 10:12)
(Steering gear) (Denmark--Automatic control)

BARYSHEV, V. A.

BARYSHEV, V. A.: "The technical-economic effectiveness of increasing the capacity and service life of the parts of the crankcase assembly of aviation engines by the use of electroplating." Min Higher Education USSR. Moscow Engineering Economics Inst imeni S. Ordzhonikidze. Chair of "Technology and Exploitation of Air Transport." Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Sciences)

Knizhnaya letopis', No 39, 1956, Moscow.

ACCESSION NR: AP4026237

S/0293/64/002/001/0098/0108

AUTHOR: Baryshev, V. A.; Krylov, G. N.

TITLE: Use of the concept of a standard model of the field of outgoing radiation of the earth as a planet in a method for the solution of the inverse radiation problem

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 1, 1964, 98-108

TOPIC TAGS: meteorology, inverse radiation problem, terrestrial radiation, atmospheric outgoing radiation, earth radiation balance, outgoing radiation model

ABSTRACT: Certain systematic problems are discussed which are involved in devising techniques for the solution of inverse radiation problems by statistical methods. The use of the concept of a model of the earth's radiation makes it possible to employ well-known mathematical methods for processing experimental results. A simplified method is presented for determination of the vertical to the earth's surface. It is noted that the development of a quite precise universal model of the field of terrestrial radiation in the form of tables, graphs or diagrams is theoretically soluble, but the use of such a model for solution of a specific inverse problem would involve a considerable modification of information, in essence leading to the development of a completely new model - the model for a

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ACCESSION NR: AP4026237

specific experiment. In addition, the modification process inevitably causes a loss of information incorporated in the universal model. On the other hand, preparation of a precise model for each specific experiment is not feasible, since this would require unwieldy computations and the resulting model would be of limited applicability. It is recommended that the solution is gradual refinement of an initial approximate model in the course of an experiment on the basis of data obtained in the preceding stages of this same experiment. Orig. art. has: 54 formulas.

ASSOCIATION: none

SUBMITTED: 20Mar63

DATE ACQ: 16Apr64

ENCL: 00

SUB CODE: AS

NO REF SOV: 003

OTHER: 004

Card

2/2

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APPROVED FOR RELEASE: 06/06/2000

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CIA-RDP86-00513R000203810012-4

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000203810012-4"

AUTHOR: Baryshev, V. A.

SOURCE CODE: UR/2960/65/000/003/0105/0110

ORG: *none*

TITLE: The influence of accidental atmospheric heterogeneities on the intensity of outgoing thermal radiation

SOURCE: Leningrad. Universitet. Problemy fiziki atmosfery, no. 3, 1965, 105-110

TOPIC TAGS: thermal radiation, boundary condition, dispersion, specific absorption coefficient, characteristic function, atmospheric heterogeneity, fluctuation function

ABSTRACT: The intensity of the outgoing thermal radiation from a point r on the functional axis $g(\delta, \phi)$ is expressed by the equation

$$I(g) = U(g, r_0)G(g, r_0) + \int_0^{\pi} \omega(g, \epsilon) U(g, \epsilon) G(g, \epsilon) d\epsilon. \quad (1)$$

at boundary conditions $I(g, r_0) = U(g, r_0)$, $r_0 = r_0(g)$. When dispersion is omitted, $r = 0$. The equation was analyzed and transformed. $G(g, r)$ is the Green function; $U(g, r)$ is the Planck function; $\omega(g, r) = k(g, r)\rho(g, r)$, where $\rho(g, r)$ expresses the density of the absorbing gas at the point r on the g -axis and $K(g, r)$ is the specific

Cord 1/2

11-22700-66

ACC NR: AT6007615

absorption coefficient. A mean radiation $I(g)$ of a standard radiative system with characteristic functions U_0 and W_0 which are near the characteristic functions of the real atmosphere was used and numerical values of $I(g)$ were computed. Nonstationary radiation, the dispersion on atmospheric heterogeneities, and the variations of parameters $\Delta w(g,r)$ and $\Delta U(g,r)$ from one observation to another were taken into consideration in analyzing the equation. Fluctuation functions were solved by introduction of w -functions. The analysis showed that $\Delta w(g,r)$ values may have a real meaning within restricted limits. The radiation of the ground, the scattered radiation, and the radiation proper to the atmosphere received by the observer were found to be variable. Although these alterations were small, they may be effective for studying the fine structure of radiation. Orig. art. has: 15 formulas. [EG]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 002/ ATD PRESS: 4216

Cord

212.6

BARYSHEV, V. A.

"On the simplest statistical fluctuation characteristics of the earth's outgoing heat radiation."

paper presented at the Atmospheric Radiation Symp, Leningrad, 5-12 Aug 64.

L 3584-66 EWT(1) GW
ACCESSION NR: AP5021868

UR/0362/65/001/008/0815/0822
551.521.32

AUTHOR: Baryshev, V. A. 44, 3

TITLE: The mesostructure of the integral-radiation field of the earth as a planet

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 1, n. 1, 1965, 815-822

TOPIC TAGS: autocorrelation function, cloud cover, earth radiation, earth planet

ABSTRACT: An attempt is made to determine the basic statistical properties of the mesostructure of the earth's integral-radiation field. A method for calculating these properties is described. The results of theoretical calculations of the departing earth radiation and the results of observations from weather satellites are used. Where possible, the theoretical and experimental data are compared. A relation is obtained that allows the calculation of autocorrelation function of various types

where α^{-1} is the correlation radius in the radiation field, $Q(\tau)$ is the probability that $\Delta I(x)$ and $\Delta I(x + \tau)$ lie on the same pulse, I is the radiation intensity, and x is a Cartesian coordinate of the scanning line. The obtained

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L 3584-66

ACCESSION NR: AP5021868

results are in fairly good agreement with the experimental data. Description of the structure of the radiation field by means of autocorrelation functions is found to be convenient in the study of systems of optical orientation. Orig. art. has: 23 formulas.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University) 44, 15

SUBMITTED: 10Dec64

ENCL: 00

SUB CODE: ES

NO REF SOV: 014

OTHER: 011

Card 2/2

BARYSHEV, V.A.

Mesostructure of the integral radiation field of the earth as a
planet. Izv. AN SSSR, Fiz. atm. i okeana 1 no.8:815-822 Ag '65.
(MIRA 18:9)

1. Leningradskiy gosudarstvennyy universitet.

1 22951-66 BRT(d)/BRT(1)/1 / WP(6) ON

ACC NR: AT6007617

SOURCE CODE: UR/2960/65/000/003/0145/0150

AUTHORS: Baryshev, V. A.; Krylov, G. N.

ORG: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

TITLE: On computing certain integrals in the theory of absorption

SOURCE: Leningrad. Universitet. Problemy fiziki atmosfery, no. 3, 1965, 145-150

TOPIC TAGS: absorption, absorption spectrum, atmosphere, approximation method, asymptotic solution, recursive function

ABSTRACT: The question on absorption of long-wave radiation in the atmosphere is discussed. In computing atmospheric absorption, it is frequently necessary to compute integral functions such as

$$H(q, \mu) = \frac{q}{\pi} \int_{-\infty}^{\infty} \frac{e^{-x^2}}{q^2 + (x + \mu)^2} dx$$

and

$$\tau(\mu) = \int_0^{\infty} P(x) H(x, \mu) dx,$$

where $P(x)$ is some function of x . Computer solutions of this type of equation are time-consuming, hence the authors have developed a numerical, asymptotic means of evaluating the function $H(q, \mu)$ applicable for computing with any values of desired

Card 1/3

1-22954-66

ACC NR: AT6007617

parameters. It is assumed, however, that the problem is such that in the interval $[q_1, q_2]$ the function $P(x)$ satisfies the parabolic approximation

$$P(x) = ax^2 + bx + c.$$

The integral H is transformed into

$$H(q, \mu) = \frac{1}{\sqrt{\pi}} \int_0^{\infty} e^{-qz - \frac{z^2}{4}} \cos \mu z \, dz,$$

and two additional integrals are defined

$$M(q, \mu) = \frac{1}{\sqrt{\pi}} \int_0^{\infty} e^{-(q + i\mu)z - \frac{z^2}{4}} \, dz$$

$$Q(q, \mu) = \frac{1}{\sqrt{\pi}} \int_0^{\infty} e^{-qz - \frac{z^2}{4}} \sin \mu z \, dz,$$

where

$$M(q, \mu) = H(q, \mu) - iQ(q, \mu).$$

Since e^{-qz} and e^{-iqz} may be stated as a series, the series summation is

$$M(q, \mu) = \sum_{n=0}^{\infty} (A_n + i B_n),$$

where the coefficients A_n and B_n are given by the recursion formulae

$$A_n = \frac{2q}{n} (q A_{n-2} - \mu B_{n-1}),$$

Card 2/3

ACC NR: AT6007617

$$B_n = \frac{2q}{n} (q B_{n-2} + p A_{n-1})$$

The recursion relationship replaces a Gamma function as the means of computing H. A similar series-based method for solving for \tilde{r} is developed. The authors discuss the limitations of applicability of the solution technique described. Orig. art. has: 31 equations.

SUB CODE: 04, 12/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 002

Card 3/3

L 07359-67 EWP(m)/EEG(k)-2/EWT(a)/EWT(1)/ESS-2
 ACC NRI AP6033395 SOURCE CODE: UR/J293/66/004/005/0722/0730

61
8

AUTHOR: Baryshev, V. A.

ORG: none

TITLE: The accuracy of ^{25B}infrared horizon sensors ✓

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 5, 1966, 722-730

TOPIC TAGS: satellite orientation, IR sensor, satellite sensor system

ABSTRACT: An analysis is made of possible errors in the determination by satellite of a vertical to the Earth's surface from observations of the Earth's thermal radiation. The accuracy is considered of infrared horizon sensors which perform periodic scanning of the radiation field and which are sensitive to integral long-wave radiation. Formulas are derived for analyzing the effect of fluctuations in the long-wave radiation of the Earth, the sensitivity of the sensors to changes in ⁹satellite orientation, and systematic and random errors in satellite orientation. It is concluded that only the transition zone in the radiation field near the Earth's surface should be used for optical orientation. The high reliability of IR sensors of the type considered is stressed. Errors in orientation caused by meteorological conditions are found to

Card 1/2

UDC: 629.196.3

U 07559-57

ACC NR: AP6033395

be smaller than the regular errors associated with instability in the radiation level with respect to latitude. It is suggested that, in selecting one or the other region of the spectrum for this type of orientation sensor, special attention be paid to large-scale inhomogeneities in the thermal structure of the Earth's atmosphere. Orig. art. has: 2 figures.

SUB CODE: 17/ SUBM DATE: 24Jan66/ ORIG REF: 008/ OTH REF: 011
ATD PRESS: 5101

Card 2/2

BARYSHEV, V. P., RUKAVISHNIKOV, V. I., and I. L. BERNSTEIN

Skorostnoe tochenie stalei v podshipnikovom proizvodstve (Opyt raboty 1 GPZ im. Kagano-
vicha). Moskva, Mashgiz, 1950.

High-speed steel grinding for the production of bearings.

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of
Congress, 1953.

L 27353-66 EWT(m)/T/ETC(m)-6 WW/DJ

ACC NR: AP6007711

(A)

SOURCE CODE: UR/0413/66/000/003/0105/0105

AUTHORS: Baryshev, V. P.; Shlayen, B. M.; Blankman, M. A.; Khudeyev, S. V. 34

ORG: none 2

TITLE: Split roller bearing separator. Class 47, No. 178617

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 105

TOPIC TAGS: antifriction bearing, roller bearing

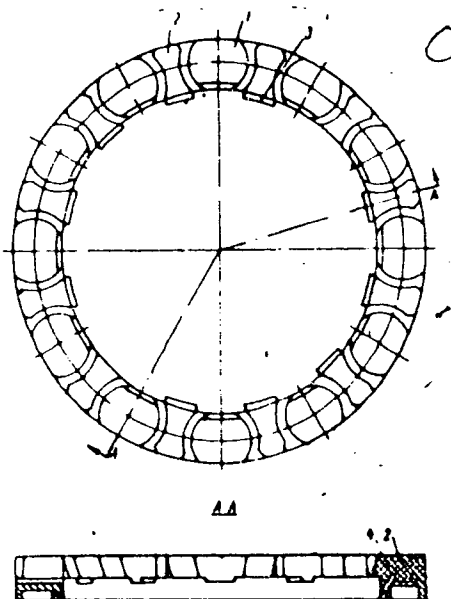
ABSTRACT: This Author Certificate presents a split roller bearing separator consisting of two separate half-separators with nests for the bearing bodies between which inserts of antifriction material are located. To increase wear resistance and to permit axial loading, the nests are used for the roller ends while the inserts have shoulders directed to the inside of the half-separators. These shoulders are connected by a reinforcing ring (see Fig. 1). To facilitate assembly, an additional feature has the two diametrically opposed inserts of the two half-separators without the protruding shoulder. 17

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UDC: 621.822.722:621.822.8 2

L 27353-66
ACC NR: AP6007711

Fig. 1. 1 - nest; 2 - insert;
3 - shoulders; 4 - reinforcing
ring.



Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 15Jun64

Card 2/2

BARYSHEV, V.I., inzh.

Increasing the reliability and durability of the hydraulic
equipment of tractors. Trakt. i sel'khoz mash. no.12:4-5
D '65. (MIRA 18:12)

1. Chelyabinskiy filial Gosudarstvennogo soyuznogo nauchno-
issledovatel'skogo traktornogo instituta.

L 05911-67	ENT(m)	DJ
ACC NR: AP6013547	(A)	SOURCE CODE: UR/0343/65/000/012/0004/0005
AUTHOR: <u>Baryshev, V. I. (Engineer)</u>		
ORG: <u>Chelyabinsk Branch of NATI (Chelyabinskiy filial NATI)</u>		
TITLE: Improving the reliability and durability of tractor <u>hydraulic systems</u>		
SOURCE: Traktory i sel'khoz mashiny, no. 12, 1965, 4-5		
TOPIC TAGS: durability, system reliability, hydraulic engineering, hydraulic equipment, filter, tractor contamination		
<p>ABSTRACT: The author studies filters and working fluid contamination in hydraulic systems. Results are presented from a study carried out at the Chelyabinsk Branch of NATI on working fluid contamination in hydraulic systems. Three types of contamination are considered: 1. Initial contamination (0.02-0.04%) caused by contaminated assemblies and parts in the hydraulic system itself. Such conditions can be directly traced to cleaning techniques used at the manufacturing plant. An analysis of the working fluid shows that the mechanical impurities in this instance consist mainly of metallic dust, abrasive particles and polishing pastes. The mechanical impurities consist of 3-5 μ particles. 2. Operational contamination. This type of contamination gradually increases mechanical impurity content in the <u>working fluid</u>. The impurity particles are <u>friction-pair wear products</u>, dust particles suspended in the air enter-</p>		
Card 1/2	UDC: 621.226.004.17:629.114.2	

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ACC NR: AP6013547

ing the tanks through the breather. Tractor road testing shows that mechanical impurity concentration in the working fluid of a hydraulic system can increase at a rate of 0.01-0.04% per 100 hours of operation. Results from these tests show that the average mechanical impurity content in the working fluid of a tractor hydraulic system may be assumed as 0.08%. 3. Contamination by improper storage, transportation, refilling and low-quality filtration of the working fluid. Conventional filters used at the filling points in tractor hydraulic systems cannot ensure reliable cleaning of the incoming liquid. Studies carried out by a number of institutes and plants on more efficient filtration are mainly concerned with the problem of finding better materials. One of the main problems encountered is developing a filter which will provide sufficiently fine cleaning, while ensuring relatively long service life. The resultant data are used as the basis for recommendations on ensuring initial purity of the working liquid, improving the reliability and durability of hydraulic system couplings, avoiding fluid losses, using mechanized refilling techniques, locating tank and breather tubes in places where the air is least contaminated and developing a filter which may be used for removing fine particles from fluids. Orig. art. has: 2 figures.

SUB CODE: 13/ SUBM DATE: None/ ORIG REF: 001

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Card 2/2

SOV/124-58-7-7783

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 68 (USSR)

AUTHORS: Baryshev, V.M., Ibragimov, E.I., Adonin, A.I.

TITLE: On the Petroleum Yield as a Function of Seepage Speeds
(Zavisimost' nefteotdachi ot skorostey fil'tratsii)

PERIODICAL: Tr. Azerb. n.-i. in-t po dobyche nefti, 1956, Nr 3, pp 5-30

ABSTRACT: A description and an analysis of experiments on the displacement of petroleum by water, conducted at the AzNII (Azerbaijani Scientific Research Institute) for petroleum production over a number of years, is given. As indicated by the authors, the experiments were conducted for different types of petroleum with and without the presence of residual water in the porous medium. In models, the porous medium was represented by tightly packed quartz sand. The authors assert that during the experiments in the years of 1953-1955 they performed analog simulation that took into consideration the viscosity and the surface tension of the oil, also the speed of advance of the water-oil contact interface in full-scale conditions. The article fails to mention any similarity criteria confirming the previous statement. The magnitude of the petroleum yield during the

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On the Petroleum Yield as a Function of Seepage Speeds

time of water-free exploitation period is studied as a function of the speed of advance of the water-oil contact interface when displacing petroleum with salt water and alkaline water. The yields of various types of petroleum by salt-water flooding as dependent upon the speed of liquid seepage during the flooding period are investigated. Deductions derived from both types of investigations are presented. A series of specific practical recommendations concerning the working of oil-bearing deposits currently under exploitation are considered unfounded, since the solution of these problems should be carried out by means of a substantially wider theoretical framework, including considerations such as petroleum geology, underground hydrodynamics, and pertinent economics. Bibliography: 10 references.

M.D. Rozenberg

1. Petroleum--Production 2. Fluid flow--Theory 3. Hydrodynamics--USSR

Card 2/2

BARYSHEV, V.M.; KARAPETOV, K.A.; MELIKBEKOV, A.S.

Increasing the receptivity of injection wells by using surfactants.

Neft. khoz. 38 no.4:21-24 Ap '60.

(MIRA 14:8)

(Oil fields--Production methods)

(Surface active agents)

88716

12.2000

S/127/60/000/007/004/011
B012/B052

AUTHORS: Vlasov, M. I., Mining Engineer, Golovin, Yu. P., Mining Engineer, and Baryshev, V. M., Mining Engineer

TITLE: Sinking of horizontal workings by blowing-up deep boreholes section by section

PERIODICAL: Gornyy zhurnal, no. 7, 1960, 39-40

TEXT: In the mines of Gornaya Shoriya, horizontal workings with small holes are advanced by applying cone and line cut. In the Temir-Tau Mine, annually 8420 m are advanced. The monthly average lies between 25 and 30 m. Very economical data were attained by blowing up deep boreholes for advancing upsets. Experience gained in advancing horizontal workings was applied to experiments. The main parameters of drilling and blasting work were determined. From June to September, 1959, three horizontal workings with a total length of 80 m were advanced by deep boreholes. The hardness of the rock was 16-18, and that of ore 15-16 according to Protod'yakonov. Fig. 1 shows the scheme of the charge in various sections of boreholes, Fig. 2 gives the sequence of explosions in the boreholes. The optimum depth

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Sinking of horizontal workings ...

of boreholes was found to be between 12 and 20 m; thus, the deviations were reduced to a minimum of 20 cm, and the drilling speed was not reduced. The experiments showed that the most economical method is that of advancing workings with cross sections between 4 and 6 m² by six boreholes (Fig. 2) two of which are cut holes. One of the difficulties in this system is the heavy air blow in the passage. The method of advancing horizontal workings by blowing up deep boreholes section by section is recommended for solid, viscous, and little cracked rock. The above method leads to a 2.5 to 3-fold increase in the rate of advance (as compared to the usual one), a cost reduction of 20-30%/m, higher safety, and improved working conditions. Drill rig BA-100 (BA-100) is unsuited. A drill rig of 60-80 kg is recommended for depths between 15 and 20 m, and a borehole of 60-75 mm in diameter. There are 3 figures and 1 Soviet-bloc reference.

ASSOCIATION: Rudnik Temir-Tau, Kemerovskoy obl. (Temir-Tau Mine of the Kemerovskaya oblast') Vlasov, M. I.; VostNII, Stalinsk (Eastern Scientific Research Institute for Industrial Safety in the Mining Industry, Stalinsk) Golovin, Yu. P., and Baryshev, V. M.

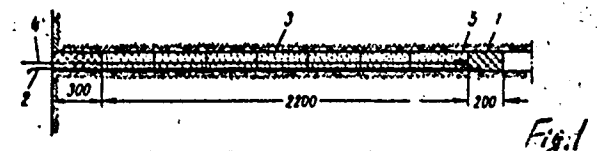
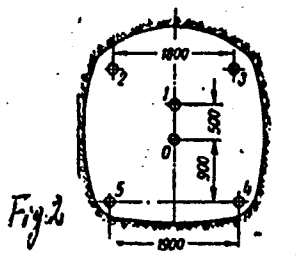
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Sinking of horizontal workings ...

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Legend to Fig. 1: Scheme of the charge
of a borehole section: 1) stemming,
2) cord, 3) ammonite No. 6, 4) fuse cord,
5) detonator



Legend to Fig. 2: Scheme of the distribu-
tion of boreholes

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1-2300

23281

S/135/61/000/007/004/012

A006/A106

AUTHORS: Brodskiy, A. Ya., Candidate of Technical Sciences, Baryshev, V. M.,
Rakhmanov, A. S., Engineers

TITLE: On the weldability of B92T (V92T) grade aluminum alloy

PERIODICAL: Svarochnoye proizvodstvo, no. 7, 1961, 13-17

TEXT: Results are presented from the first stage of investigations on the weldability of thermally strengthened V92T aluminum alloy. The work was carried out with the participation of L. S. Livshits, Candidate of Technical Sciences, from VNIIST, for the purpose of evaluating the applicability of this alloy in welded structures. The tests were made with 10 mm thick V92T-alloy sheets welded by argon-arc process with non-consumable electrode and by automatic and semi-automatic process with consumable electrode. Plates of 130 x 130 mm dimensions with V-shaped beveling of edges were welded on dismountable steel backing plates. The filler and electrode wires were of the same composition as the base metal. The content of the basic alloying components in the alloy was 3.9% Mg, 2.7% Zn, 0.8% Mn. From two chemical methods of cleaning the wire, etching in 30% orthophosphoric acid solution with small additions of potassium bichromate, for 20 min,

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A006/A106

On the weldability ...

at 45°C, assured reliable surface treatment of the wire. Manual argon-arc welding was performed on a УДАР-300 (UDAR-300) machine. The seams were applied in 2 and 3 layers at 280-300 amps current, 15 l/min argon consumption, 6 mm tungsten electrode diameter, 4 mm diameter of the filler wire and 70° chamfering angle. Semi-automatic and automatic welding was made on the ПШП-10 (PShP-10) semi-automatic and the АРК-1 (ARK-1) automatic machines. The semi-automatic welding conditions were: 270-280 amp current, 22-24 v arc voltage, 20 l/min argon consumption, 70° chamfering angle. Conditions for automatic welding were: 300-320 amps current intensity in single-layer welding and 280-300 amps in double-layer welding; 22-24 v arc voltage 20 l/min argon consumption; speed of welding single-layer joints 17-19 m/h; for welding the first layer of double-layer joints 28-30 min/h, and for welding the second layer 22-24 m/h; total chamfering angle 60°. The electrode was located vertically. Mechanical properties of the welded joints were determined on standard specimens with reinforced welds. Toughness of the weld metal, of the fusion zone metal and of the heat-affected zone were determined. The experiments showed that the mechanical properties of welded butt joints on 10 mm thick V92T specimens, performed by argon-arc method with consumable electrode were below those of joints argon-arc welded with non-consumable electrodes. The strength of welded butt joints of medium thickness is 90-95% of the base metal

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On the weldability ...

strength after three-month natural aging. Therefore manual argon-arc welding with tungsten electrode can be recommended for important medium-thick V92T alloy parts. This alloy is somewhat more prone to pore formation than AMg6 alloy in particular when welded with consumable electrode. The relative strength of joints produced by argon arc welding with consumable electrode is 80%. Consequently, this method for welding V92T alloy must presently be limited. Natural aging of the weld metal and the heat-affected zone of welded butt joints lasts for 3 months and proceeds particularly intensively during the first month after welding. As a result of three-month natural aging the properties of the weld produced by argon-arc welding with non-consumable electrode and of the heat-affected zone, approach the properties of the base metal in its initial state. The process of natural aging of weld joints is practically completed within three months. The V92T alloy is sensitive to stress concentration. For this reason the surface of the weld joint should pass smoothly into the base metal. There are 9 figures.

ASSOCIATIONS: TsNII stroitel'nykh konstruktsiy AS i A SSSR - TsNII of Building
Constructions of AS and A SSSR - (Brodskiy and Baryshev); VNIIST
(Rakhmanov)

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34961

S/135/62/000/006/003/014

A006/A106

1.2300
AUTHOR: Baryshev, V. M., Engineer

TITLE: On the weldability of aluminum alloy ABT 1 (AVT1)

PERIODICAL: Svarochnoye proizvodstvo, no. 6, 1962, 6 - 9

TEXT: The welding of Al-Mg-Si alloy "AVT1" is difficult due to its sensitivity to crystallization cracks and to metal softening in the weld-adjacent zone. To investigate its weldability, plates 6 and 10 mm thick, were welded with the use of 4 mm-diameter filler wire. The effect of the Si content in the filler wire upon crack sensitivity and the mechanical properties of the weld metal were investigated. Filler wire containing 11.5 - 13.5% Si and 0.15 - 0.25% Zr is recommended. It assures higher mechanical properties and strength of the weld metal than standard AK wire. The effect of the thermal welding cycle upon the weld-adjacent zone of AVT1-alloy butt welds was investigated. The degree and nature of metal softening in the heat-affected zone were determined, depending on the linear energy of the arc and the argon-arc welding method. It was found that in welding the AVT1 alloy, the metal in the weld-adjacent zone

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ACC6/A106

On the weldability of aluminum...

was subjected to considerable annealing due to the effect of the welding heat. The extent of the weld-adjacent zone and the degree of annealing in this zone vary within a very large range depending on the linear energy of the arc. In welded butts the spot of maximum annealing is located at 1 - 1.5 of the thickness of the welded sheet from the seam edge. This spot of the joint is the weakest. In welding the AVT1 alloy, the duration of time when the metal is exposed to a temperature over 270°C, exerts a considerable influence upon the degree of softening within the range of maximum annealing of the weld-adjacent zone. Therefore, the strength of joints produced by argon-arc welding with consumable electrode is higher than that of joints made with a tungsten electrode. For the same reason, when welding parts of medium and large thickness, the amount of layers in the seam and the speed of welding each layer should be increased in spots where the degree of metal softening in the weld-adjacent zone has to be reduced. There are 8 figures and 1 table.

ASSOCIATION: TsNIISK

Card 2/2

VINOGRADOV, V.S., inzh.; AL'TSHULER, M.A., kand. tekhn. nauk; POLYAKOV, V.G., inzh.; KUROCHKIN, A.N., inzh.; KARMAZIN, V.I., doktor tekhn. nauk; ZAIKIN, S.A., inzh.; OSTROVSKIY, G.P., inzh.[deceased]; NAUMENKO, P.I., inzh.; BOBRUSHKIN, L.G., inzh.; RUSTAMOV, I.I., inzh.; SHIFRIN, I.I., inzh.; GOLOVANOV, G.A., inzh.; KRASOVSKIY, L.A., inzh.; TSIMBALENKO, L.N., inzh.; RAVIKOVICH, I.M., inzh.; BAZILEVICH, S.V., kand. tekhn.nauk; ZORIN, I.P., inzh.; ZUBAREV, S.N., inzh.; TIKHOVIDOV, A.F., inzh.; SHITOV, I.S., inzh.; GAMAYUROV, A.I., inzh.; KUSEMBAYEV, Kh.N., inzh.; DEKHTYAREV, S.I., inzh.; VORONOV, I.S., inzh.; BURMIN, G.M., inzh.; BARYSHEV, V.M., inzh.; GOLOVIN, Yu.P., inzh.; MARCHENKO, K.F., inzh.; RYCHKOV, L.F., inzh.; NESTERENKO, A.M., inzh.; KABANOV, V.F., inzh.; PATRIKEYEV, N.N., inzh.[deceased]; ROSSMIT, A.F., inzh.; SOSEDOV, O.O., inzh.; POKROVSKIY, M.A., inzh., retsenzent; POLOTSK, S.M., red.; GOL'DIN, Ya.A., glav. red.; GOLUBEYATNIKOVA, G.S., red. izd-va; BOLDYREVA, Z.A., tekhn. red.

[Iron mining and ore dressing industry] Zhelezorudnaya promyshlennost'. Moskva, Gosgortekhnizdat, 1962. 439 p.

(MIRA 15:12)

1. Moscow. Tsentral'nyy institut informatsii chernoy metallurgii.
(Iron mines and mining) (Ore dressing)

VORONOV, I.S.; BURMIN, G.M.; BARYSHEV, V.M.; KHAMTSOV, V.F.

Effective mining systems and methods for breaking down
ores in Gornaya Shoriya mines. Biul.tekh.-ekop.inform.

Gos.nauch.-issl.inst.nauch.i tekhn. inform. no.9:3-7

'62

(MIRA 15:9)

(Gornaya Shoriya--Iron mines and mining)

BRODSKIY, A.Ya., kand. tekhn. nauk; BALDIN, V.A., kand. tekhn. nauk; Prinsipal uchastiye BARYSHEV, V.M., inzh.

[Argon-arc welding of aluminum alloys for building structures; industrial recommendations] Argon-dugovaia svarka aluminievyykh splavov dlia stroitel'nykh konstruktsii; tekhnologicheskie rekomendatsii. Moskva, Gosstroizdat, 1963. 179 p. (MIRA 17:10)

1. Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsii. 2. Rukovoditel' sektora svarki Tsentral'noy laboratorii metallokonstruktsiy Tsentral'nogo nauchno-issledovatel'skogo instituta stroitel'nykh konstruktsiy (for Brodskiy). 3. Rukovoditel' Tsentral'noy laboratorii metallokonstruktsiy Tsentral'nogo nauchno-issledovatel'skogo instituta stroitel'nykh konstruktsiy (for Baldin).

SAVITSKY, V.I.; SMIRNOV, S.D.; GILSON, D.M., I.A.

Maneuvering and service of car dumpers. Koks i khim. no.2:10-14
'61. (MIRA 14:2)

1. Giprokoks.
(Coke industry--Equipment and supplies)

BRIMMER, I.Ie. L. BARDISHEV, V.S.

Cutting tools for high-precision boring machines. Stan. 1 instru.
36 no.1:35-37 Ja '65. (MIRA 18:4)

BARYSHNY, Ye.I., inzhener.

Using isotopes in a ballast plant. Put' 1 put.khoz. no.6:22
Je '57. (MIRA 10:7)
(Ballast) (Radioisotopes--Industrial applications)

BOGOSLOVSKIY, V.A., insh.; BARYSHEV, Ye.I., insh.

Mobile crushing and grading plant with a yearly output of 200
thousand cu. meters of gravel. Stroi. mat. 6 no.10;15-18 0 '60.
(MIRA 13:10)

(Sand and gravel plants)

BARYSHEV, V.S., kapitan 2-go ranga

A thorough knowledge of the regulations for the prevention of
ship collisions at sea for every officer. Mor. sbor. 47
no.5:58-60 My '64. (MIRA 18:6)

LEBEDYANSKIY, A.A.; TARUNIN, V.F.; FROLKIN, F.F.; BARYSHEV, Yu.D.;
GUR'YEV, O.V.

New method of heating piston rings before high-frequency hardening;
submitted by A.A. Lebedianskii and others. Prom. energ. 13 no.5:17
My '58. (MIRA 11:8)
(Electric heating) (Piston rings)

L 21794-66 EWT(1)/EWA(h)

GW

ACC NR: AP6002922

(N)

SOURCE CODE: UR/0286/65/000/024/0083/0083

AUTHORS: Naumenko-Bondarenko, I. I.; Gorin, V. P.; Usacheva, A. M.; Stepin, M. D.; Yurkovetskiy, S. G.; Aksenov, M. Z.; Yefremov, V. V.; Kolentsev, A. M.; Baryshev, Yu. M.; Lqd'ina, V. M.; Fel'dman, Yu. S.

ORG: none

TITLE: A ground gravimeter Class 42, No. 177106

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 83

TOPIC TAGS: gravimetric analysis, measuring instrument, measurement accuracy
gravimeter

ABSTRACT: This Author Certificate presents a ground gravimeter containing a quartz elastic sensitive system, units of distance control and control of the rotation angle of a micrometric screw, and an assembly of a photoelectric device with an illuminator. The design increases the precision of the measurements and makes possible the determination of the errors of the distance transmission. The unit of distance control in the gravimeter has precision multiple-turn linear potentiometers interconnected in a bridge circuit. One of the potentiometers is mounted in the gravimeter and the other on a control panel. The rotors of these potentiometers are connected with a tachometer. To reduce the temperature effects on the quartz sensitive system, the latter system is insulated from the photoelectric device.

SUB CODE: 08/ SUBM DATE: 21Jan64

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UDC: 550.831